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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,398	09/30/2003	Marc S. Weinberg	DR-312J	6483
7590 04/21/2005				
Iandiorio & Teska 260 Bear Hill Road Waltham, MA 02451-1018				
			EXAMINER BUDD, MARK OSBORNE	
			ART UNIT 2834	PAPER NUMBER
DATE MAILED: 04/21/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/675,398

**Applicant(s)**

WEINBERG ET AL.

**Examiner**

Mark Budd

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.  
4a) Of the above claim(s) 57-60 is/are withdrawn from consideration.  
5) ☒ Claim(s) 50-54 is/are allowed.  
6) ☒ Claim(s) 1,2,4-43,55 and 56 is/are rejected.  
7) ☒ Claim(s) 3 and 44-49 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-7, 9, 15, 17, 35, 36, 38, 40, 42, 55 and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (182) or Bernstein (580).

Takeuchi (see abstract, figs. 4, 5, 9c, 22 and 23) teaches a flexural plate #20 (fig. 2) and interdigitated sense or drive electrodes (#22a, #22b). Courts have found that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims cover what a device is, not what a device does". Hewlett\_Packard Co. v. Bausch & Lomb Inc., 909 F 2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original). Thus the functional statements such as "wherein" and "to reduce the number of eigenmodes ---"have not been given patentable weight. Regarding claim 35, note the claim does not state the drive and sense electrodes cannot be constituted by the same electrode sets. I.e. they are not explicitly stated to be separate electrode sets. Regarding claim 36, note the first set is e.g. #22a and the second set is #22b. Regarding claims 55 and 56 the comments regarding separate sets of drive and sense electrodes apply. Also, since the references show drive and sense electrodes covering 100 percent of the diaphragm, they therefore also must cover any lessor amount e.g. 50 percent. These claims are not limited to only 50 percent coverage. Please also note Bernstein figs. 3-7.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 16, 18, 37, 39, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art in view of Takeuchi (182) or Bernstein (580).

The prior art (applicants figs. 1-4) teaches a flexural wave plate sensor comprising a flexural plate upon which are disposed drive and sense electrodes which cover only between 25 and 40 percent of the diaphragm area, not the full diaphragm length (or width). However, each of Takeuchi and Bernstein (as noted above) teach making the entire diaphragm (flexural plate) active by using 100 percent (full) electrode coverage to increase sensitivity and displacement. Thus for at least these reasons it would have been obvious to one of ordinary skill in the art to provide full electrode coverage for the flexural plates of the prior art.

Claims 10-14, and 19-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (182) or Bernstein (580).

Takeuchi and Bernstein (as noted above in regard to e.g. claim 1) teach the basics flexural plate sensor. They do not explicitly teach the use of some specific materials (e.g. copper electrodes), some specific dimensions or the specific integrated (solid state) constructions describe by claims 19-32. However, selection from among known suitable materials has long been held to be within the skill expected of the routineer. Likewise optimization of a known structure for a particular application has

Art Unit: 2834

been held to be within the skill expected of the routineer. Since each of the specific materials is known per se for the claimed use (official notice taken), the specific materials selections and dimension selections would have been obvious to one of ordinary skill in the art. The specific integrated S-O-I structure for use as a piezoelectric resonator (as defined by e.g. claim 19) is known per se (official notice taken. (note also applicants fig. 4). To extend the interdigitated electrodes to full coverage of the diaphragm area to increase sensitivity and displacement as taught by Bernstein or Takeuchi, would have been obvious to one of ordinary skill in the art.

Claims 3 and 44-49 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Claims 50-54 are allowed.

Cited of interest are Muller, Bernstein (292), Baer, Cullen, Takeuchi (337) and Stokes.

The drawings are objected to due to the poor hand printed labels (e.g. Prior Art in figs. 1-4) (e.g. #120 fig. 9) as well as poor line quality and crossed out women cloture (e.g. figs. 10-12). These are only examples of the many informalities.

Budd/ds

04/08/05

  
MARK O. BUDD  
PRIMARY EXAMINER  
ART UNIT 2834